CUET-UG Physical Education Sample Paper - 14

Duration: 1 Hour **Maximum Marks: 250**

Instructions

- This paper contains a total of 50 Multiple Choice Questions.
- Each correct answer carries **+5 marks**.
- Each incorrect answer carries **-1 mark**.
- No negative marking for unattempted questions.

Q1. The National Rural Health Mission (NRHM) was primarily launched to provide accessible and affordable healthcare to which specific demographic?

(A) Urban slum dwellers only

(B) Rural population, especially vulnerable groups

(C) Industrial workers in metro cities

(D) Only children under the age of five

Q2. In the context of the Midday Meal Scheme, which of the following is a primary nutritional objective for upper primary students?

(A) 300 Calories and 8–12g Protein

(B) 700 Calories and 20g Protein

(C) 450 Calories and 12g Protein

(D) 1000 Calories and 30g Protein

Q3. Which of the following is classified as a 'Lifestyle Disease' or Non-Communicable Disease (NCD)?

(A) Tuberculosis

(B) Malaria

(C) Hypertension

(D) Hepatitis B

Q4. Which strategy is most effective for "Inclusive Education" when dealing with Children with Special Needs (CWSN)?

(A) Creating separate schools for different disabilities

(B) Adaptive Physical Education and modified equipment

(C) Excluding CWSN from high-intensity sports

(D) Providing only theoretical knowledge of games

Q5. Identify the communicable disease that is transmitted through a vector like the *Aedes* mosquito.

(A) Diabetes

(B) Dengue

(C) Asthma

(D) Scurvy

Q6. What is the main role of "Special Educators" in the CWSN strategy within Physical Education?

(A) To record attendance of students

(B) To help design Individualized Education Programs (IEP)

(C) To act as a primary sports referee

(D) To provide medical surgery if needed

Q7. According to the "Big Five" Personality Theory, a person who is highly organized, dependable, and disciplined scores high in:

(A) Neuroticism

(B) Extraversion

(C) Conscientiousness

(D) Agreeableness

Q8. William Sheldon's classification identifies 'Mesomorphs' as individuals having which physical trait?

(A) Soft, round body with high fat

(B) Thin, fragile, and delicate build

(C) Muscular, athletic, and strong bone structure

(D) Short height with poor muscle tone

Q9. Which of Jung's personality types is characterized by a person who is shy, enjoys solitude, and is socially withdrawn?

(A) Ambivert

(B) Extrovert

(C) Introvert

(D) Somatotype

Q10. In sports, "Hostile Aggression" is primarily defined by:

(A) The intent to harm an opponent to gain a points advantage

(B) The intent to cause injury or pain as the primary goal

(C) Accidental contact during a high-speed play

(D) Loud cheering and motivation from the bench

Q11. Which motivation technique involves providing external rewards like trophies or scholarships?

(A) Intrinsic Motivation

(B) Self-Actualization

(C) Extrinsic Motivation

(D) Cognitive Dissonance

Q12. The "Big Five" trait 'Openness' refers to a person's:

(A) Willingness to try new experiences and ideas

(B) Ability to tolerate stress without anxiety

(C) Physical flexibility in gymnastics

(D) Tendency to be compassionate and cooperative

Q13. What are the official dimensions of a professional Handball court (International standards)?

(A) 28×15 meters

(B) 40×20 meters

(C) 18×9 meters

(D) 100×50 meters

Q14. In Football, what is the standard distance of the 'Penalty Spot' from the goal line?

(A) 8 yards

(B) 10 yards

(C) 12 yards (11 meters)

(D) 15 yards

Q15. The skill of "Ankle Hold" and "Thigh Hold" are fundamental defensive techniques of which game?

(A) Kho-Kho

(B) Hockey

(C) Kabaddi

(D) Handball

Q16. In Hockey, the "Long Corner" is awarded when the ball goes over the backline after being last touched by:

(A) An attacker intentionally

(B) A defender unintentionally

(C) An attacker unintentionally

(D) The goalkeeper during a save

Q17. What is the standard weight of a professional Cricket ball used in Men's International matches?

(A) 140g to 150g

(B) 155.9g to 163g

(C) 170g to 180g

(D) 200g to 210g

Q18. The "Cant" is a unique technical requirement in which of the following games?

(A) Handball

(B) Hockey

(C) Kabaddi

(D) Football

Q19. In Cricket, how many "Powerplay" overs are typically played in the first innings of a standard T20 International?

(A) 4 overs

(B) 6 overs

(C) 10 overs

(D) 15 overs

Q20. In the 12-stage sequence of Suryanamaskar, which posture is performed at Stage 4 (and repeated at Stage 9)?

(A) Padahastasana

(B) Ashwa Sanchalanasana

(C) Bhujangasana

(D) Parvatasana

Q21. Which 'Kriya' involves the use of a saline water solution to cleanse the nasal passage?

(A) Dhauti

(B) Nauli

(C) Jala Neti

(D) Kapalbhati

Q22. The 'Vrikshasana' (Tree Pose) is primarily known for improving which physical attribute?

(A) Cardiovascular endurance

(B) Muscular strength of the arms

(C) Balance and concentration

(D) Digestive efficiency

Q23. Which type of Pranayama involves a 'hissing' sound during inhalation and is known for its cooling effect?

(A) Bhastrika

(B) Sitali

(C) Bhramari

(D) Ujjayi

Q24. During 'Ashtanga Namaskara' (Stage 6 of Suryanamaskar), how many body parts should ideally touch the ground?

(A) 4

(B) 6

(C) 8

(D) 10

Q25. Which Yogic practice is specifically categorized as a 'shatkarma' (cleansing technique) rather than an Asana?

(A) Tadasana

(B) Trataka

(C) Shavasana

(D) Gomukhasana

Q26. A marathon runner is looking for a "quick energy" source to consume mid-race. Which category of macronutrients should they prioritize for immediate glucose release?

(A) Complex Carbohydrates

(B) Simple Carbohydrates

(C) Saturated Fats

(D) Fat-soluble Vitamins

Q27. Identify the postural deformity where the gap between the knees increases while the ankles touch each other, often caused by Vitamin D deficiency.

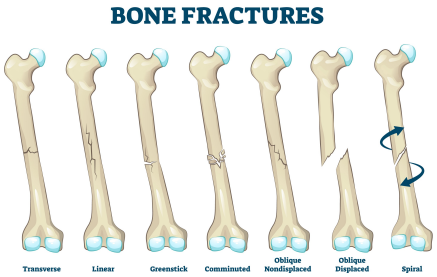
(A) Knock Knees (Genu Valgum)

(B) Bow Legs (Genu Varum)

(C) Flat Foot (Pes Planus)

(D) Kyphosis

Q28. The image below illustrates a specific type of fracture common in high-impact sports. Identify the fracture type where the bone is broken into several fragments.



(A) Transverse Fracture

(B) Greenstick Fracture

(C) Comminuted Fracture

(D) Stress Fracture

Q29. Which of the following is a 'Micro-Nutrient' that plays a critical role in blood clotting and bone metabolism?

(A) Vitamin K

(B) Magnesium

(C) Carbohydrates

(D) Phosphorus

Q30. An athlete suffering from 'Flat Foot' should be advised to perform which of the following corrective exercises?

(A) Walking on heels

(B) Walking on the inner edge of the feet

(C) Walking on the outer edge of the feet and picking up marbles with toes

(D) Jumping from a height

Q31. What characterizes an 'Oblique Fracture' compared to a 'Transverse Fracture'?

(A) It occurs at a right angle to the bone's long axis

(B) It occurs at an angle or curved/sloped direction

(C) It pierces through the skin

(D) It involves a ligament pulling a piece of bone off

Q32. The "Major Dhyan Chand Khel Ratna Award" is the highest sporting honor in India. What is the current cash prize associated with this award?

(A) 15 Lakh

(B) 20 Lakh

(C) 25 Lakh

(D) 10 Lakh

Q33. The 'Dronacharya Award (Lifetime Category)' is specifically reserved for:

(A) Active athletes with 10 years of experience

(B) Coaches who have produced medalists over a period of 20 years or more

(C) Physical Education teachers in primary schools

(D) Sports administrators

Q34. To become a specialized Physical Education teacher in a secondary school in India, which professional degree is the minimum requirement after graduation?

(A) D.P.Ed (Diploma in Physical Education)

(B) B.P.Ed (Bachelor of Physical Education)

(C) M.P.Ed (Master of Physical Education)

(D) PhD in Sports Science

Q35. The Arjuna Award is given for "outstanding performance in Sports and Games." What is the evaluation period for this performance?

(A) Performance over the last 1 year

(B) Performance over the last 4 years

(C) Performance throughout the career (Lifetime)

Performance in a single Olympic event

Q36. Which type of muscle contraction occurs when the muscle develops tension but there is no change in the length of the muscle or joint angle (e.g., pushing against a wall)?

(A) Isotonic

(B) Isokinetic

(C) Isometric

(D) Eccentric

Q37. Fartlek Training is a Swedish method used primarily to develop endurance. What is the literal meaning of 'Fartlek'?

(A) Continuous running

(B) Speed play

(C) Interval rest

(D) Mountain climbing

Q38. Proprioceptive Neuromuscular Facilitation (PNF) is considered the most effective method for developing:

(A) Explosive Strength

(B) Speed Endurance

(C) Flexibility

(D) Static Balance

Q39. Isokinetic exercises require specialized equipment that keeps the speed of movement constant throughout the range of motion. These were introduced by:

(A) J.J. Perrine

(B) Gosta Holmer

(C) Morgan and Adamson

(D) Hans Kraus

Q40. An athlete performs a 'Bicep Curl' with a dumbbell. During the upward phase, the bicep muscle shortens under tension. This is an example of:

(A) Isometric contraction

(B) Concentric (Isotonic) contraction

(C) Eccentric (Isotonic) contraction

(D) Isokinetic contraction

Passage I

Read the passage below carefully. The questions that follow (Questions 41 to 45) are based on the information provided in this text. Choose the one best answer for each question.

"The National Fitness Mission requires standardized testing to evaluate different age groups. For adolescents, the Flamingo Balance Test and the Shuttle Run are utilized to assess equilibrium and agility. However, as the population ages, the Rikli Jones Senior Citizen Fitness Test becomes crucial. This battery includes the "Chair Stand Test" for lower body strength and the "Back Scratch Test" for upper body flexibility, ensuring that the elderly can maintain functional independence."

Q41. A 70-year-old female is asked to perform the "Chair Stand Test" from the Rikli & Jones battery. What is the primary purpose of this specific test?

(A) To measure aerobic endurance

(B) To assess lower body strength and functional mobility

(C) To evaluate static balance

(D) To check for spinal deformities

Q42. During the Flamingo Balance Test, the timer is stopped every time the subject loses balance or their foot touches the ground. If an athlete falls 15 times in the first 30 seconds, what is the standard protocol?

(A) Allow them to restart after a 5-minute rest

(B) The test is terminated and the score is recorded as zero

(C) Only the falls in the last 30 seconds are counted

(D) The participant is disqualified from all fitness tests

Q43. The 4×10m Shuttle Run is a classic measure of agility. Which of the following factors would most significantly impact the validity of the results?

(A) The color of the wooden blocks used

(B) The surface friction of the floor (slippery vs. grippy)

(C) The time of day the test is conducted

(D) The height of the participant

Q44. In the Rikli & Jones battery, which test is specifically designed to measure "Upper Body Flexibility"?

(A) Eight Foot Up-and-Go Test

(B) Six-Minute Walk Test

(C) Back Scratch Test

(D) Arm Curl Test

Q45. Measurement and Evaluation are distinct processes. Which of the following is an example of "Evaluation" in the context of the Flamingo test?

(A) Recording that the student balanced for 45 seconds

(B) Comparing the 45-second score against national norms to grade it as "Excellent"

(C) Using a stopwatch to track the time

(D) Checking if the student is wearing sports shoes

Passage II

Read the passage below carefully. The questions that follow (Questions 46 to 50) are based on the information provided in this text. Choose the one best answer for each question.

"The human body in motion is a complex system of levers and forces. When an athlete performs a biceps curl, the elbow acts as a fulcrum. When a sprinter pushes off the blocks, they utilize Newton's Third Law of Motion. Regular exercise further adapts the body, leading to physiological changes like "Athletic Heart," where the stroke volume increases and resting heart rate decreases, and muscular hypertrophy, where the cross-sectional area of the muscle fibers increases."

Q46. A high jumper exerts a forceful push downward against the ground to propel themselves upward. Which of Newton's Laws best explains the ground pushing back with equal force?

(A) Law of Inertia (1st Law)

(B) Law of Acceleration (2nd Law)

(C) Law of Action and Reaction (3rd Law)

(D) Law of Gravitation

Q47. In a 'Second Class Lever', which component is located in the middle, between the Fulcrum and the Effort?

(A) The Fulcrum

(B) The Load (Resistance)

(C) The Effort (Force)

(D) The Axis

Q48. During long-term aerobic training, the heart undergoes "Hypertrophy." What is the functional benefit of an increased 'Stroke Volume' for an athlete?

(A) It allows the heart to pump more blood per beat, reducing the work rate of the heart

(B) It increases the maximum heart rate significantly

(C) It leads to higher blood pressure during rest

(D) It decreases the amount of oxygen reaching the muscles

Q49. Identify the 'Third Class Lever' system commonly used in the human body during sports.

(A) A person standing on their tiptoes (Calf raise)

(B) Nodding the head (Atlanto-occipital joint)

(C) Flexing the elbow (Biceps acting on the forearm)

(D) A seesaw

Q50. Which physiological effect on the muscular system is most likely to occur after consistent 'Anaerobic' (strength) training?

(A) Increase in the number of mitochondria

(B) Increase in the size of the muscle fibers (Hypertrophy)

(C) Decrease in the thickness of tendons

(D) Increase in resting heart rate

Detailed Solutions

Q1.

Solution

Concept: The National Rural Health Mission (NRHM) was launched by the Government of India in 2005 to improve the healthcare delivery system in rural areas. The mission focused on providing accessible, affordable, and quality healthcare services to underserved populations living in villages and remote regions. Special emphasis was given to vulnerable groups such as women, children, economically weaker sections, and people living in backward and tribal areas. NRHM aimed to strengthen primary healthcare infrastructure, increase medical staff availability, and reduce health inequalities between rural and urban populations.

Solution: The National Rural Health Mission (NRHM) was introduced to address the poor healthcare conditions existing in rural India. Before the mission, many villages lacked hospitals, trained doctors, medicines, and proper healthcare infrastructure. The primary objective of NRHM was to make healthcare services accessible and affordable for people living in rural areas, especially vulnerable and disadvantaged groups. These groups included pregnant women, infants, children, tribal communities, and economically weaker populations who often had limited access to medical facilities. The mission also focused on reducing maternal mortality rates, infant mortality rates, and communicable diseases through better healthcare programs and awareness campaigns. It strengthened rural healthcare by improving sub-centres, Primary Health Centres (PHCs), and Community Health Centres (CHCs). Accredited Social Health Activists (ASHAs) were appointed to create awareness and connect rural families with healthcare services. Since the mission mainly targeted rural populations rather than urban residents or only children, the correct answer is the rural population, especially vulnerable groups.

Final Answer: Rural population, especially vulnerable groups

Answer: (B)

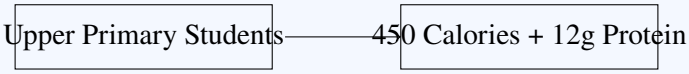
Q2.

Solution

Concept: The Midday Meal Scheme aims to improve the nutritional status of school children by providing balanced meals during school hours.

- For **upper primary students** (Classes VI–VIII), the nutritional norm is:
  - **450 Calories**
  - **12 g Protein**

Visual Representation:



Explanation:

- 300 Calories and 8–12g Protein applies to primary level students.
- 450 Calories and 12g Protein is the official upper primary norm.
- Other options exceed prescribed nutritional standards.

Final Answer: 450 Calories and 12g Protein

Answer: (C)

Q3.

Solution

Concept: Lifestyle diseases are Non-Communicable Diseases (NCDs) caused mainly by unhealthy habits such as poor diet, stress, obesity, smoking, and lack of exercise. These diseases do not spread through infection and usually require long-term management through healthy lifestyle changes and proper medical care.

Solution: Hypertension, commonly called high blood pressure, is classified as a Lifestyle Disease or Non-Communicable Disease (NCD). It develops mainly because of unhealthy lifestyle habits such as stress, obesity, excessive salt intake, smoking, lack of exercise, and poor eating patterns. Unlike communicable diseases, hypertension cannot spread from one person to another through air, water, contact, or vectors. Tuberculosis spreads through bacteria in the air, malaria spreads through mosquitoes, and Hepatitis B spreads through infected body fluids. Therefore, these diseases are communicable in nature. Since hypertension is associated with lifestyle-related risk factors and long-term health management rather than infection, it is correctly categorized as an NCD. Hence, hypertension is the correct answer among the given options.

Final Answer: Hypertension

Answer: (C)

Q4.

Solution

Concept: Inclusive Education ensures that Children with Special Needs (CWSN) learn together with other students in the same environment. Adaptive Physical Education modifies activities, teaching methods, and equipment according to students' abilities, helping improve participation, confidence, social interaction, and equal learning opportunities for all children.

Solution: Adaptive Physical Education and modified equipment are considered the most effective strategies for Inclusive Education because they allow Children with Special Needs (CWSN) to participate safely and actively in educational and sports activities. Teachers can modify exercises, rules, teaching methods, and sports equipment according to the abilities and limitations of students. This promotes confidence, coordination, inclusion, and physical development among children with disabilities. Creating separate schools opposes the principle of inclusion because it isolates students from mainstream learning environments. Excluding CWSN from sports reduces their opportunities for growth and participation. Providing only theoretical knowledge also limits practical development. Therefore, Adaptive Physical Education best supports equal participation, accessibility, and overall development of Children with Special Needs.

Final Answer: Adaptive Physical Education and modified equipment

Answer: (B)

Q5.

Solution

Concept: Communicable diseases are caused by infectious agents such as bacteria, viruses, fungi, or parasites. Some diseases spread through vectors like mosquitoes. The *Aedes* mosquito is responsible for transmitting viral diseases such as dengue and chikungunya, especially in tropical and subtropical regions.

Solution: Dengue is a communicable disease spread through the bite of an infected *Aedes* mosquito, mainly the *Aedes aegypti* species. It is caused by the dengue virus and spreads rapidly in areas where mosquito breeding conditions are favorable. Common symptoms include high fever, headache, joint pain, muscle pain, and weakness. Since mosquitoes act as vectors carrying the virus from one person to another, dengue is classified as a vector-borne communicable disease. Diabetes is a lifestyle disease, asthma is a chronic respiratory condition, and scurvy is caused by Vitamin C deficiency. None of these spread through infectious vectors. Therefore, dengue is the correct answer because it spreads through the *Aedes* mosquito.

Final Answer: Dengue

Answer: (B)

Q6.

Solution

Concept: Special Educators are trained professionals who support Children with Special Needs (CWSN) through customized teaching strategies, assessment, and educational planning. They help students participate effectively in classroom and physical activities by designing programs according to individual abilities, limitations, and developmental requirements.

Solution: The primary role of Special Educators in Physical Education is to help design Individualized Education Programs (IEPs) for Children with Special Needs. An IEP is a customized educational plan prepared according to the abilities, strengths, and learning needs of each child. Special Educators work with teachers, parents, and therapists to modify activities, equipment, and teaching methods so students can participate safely and confidently in physical activities. Their role focuses on educational support, inclusion, confidence building, and skill development. Recording attendance or acting as sports referees are not their main responsibilities, and they are not medical professionals responsible for surgeries. Therefore, designing Individualized Education Programs is considered the most important role of Special Educators within inclusive physical education strategies.

Final Answer: To help design Individualized Education Programs (IEP)

Answer: (B)

Q7.

Solution

Concept: The Big Five Personality Theory explains personality through five major traits: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Conscientiousness represents discipline, responsibility, organization, self-control, and dependability. People high in this trait are usually careful, punctual, hardworking, and goal-oriented in personal and professional activities.

Solution: According to the Big Five Personality Theory, a person who is organized, dependable, disciplined, and responsible scores high in Conscientiousness. This personality trait reflects planning ability, self-discipline, punctuality, and reliability in completing tasks. Such individuals usually follow rules carefully and remain focused on achieving goals. Neuroticism is related to emotional instability, while Extraversion refers to outgoing social behavior. Agreeableness represents kindness and cooperation toward others. Since the qualities mentioned in the question mainly describe responsibility and discipline, conscientiousness is the correct answer. This trait is strongly associated with academic success, work efficiency, healthy habits, and effective time management in daily life.

Final Answer: Conscientiousness

Answer: (C)

Q8.

Solution

Concept: William Sheldon's Somatotype Theory classifies human body types into Endomorph, Mesomorph, and Ectomorph categories. Mesomorphs are muscular, athletic, and physically strong individuals with broad shoulders and well-developed muscles. This body type is commonly associated with sports performance, agility, strength, and better physical endurance.

Solution: According to William Sheldon's classification, Mesomorphs possess a muscular, athletic, and strong bone structure. They generally have broad shoulders, a narrow waist, and naturally developed muscles. Mesomorphic individuals gain muscle easily and often perform well in sports and physical activities because of their strength and agility. Endomorphs usually have soft, round bodies with higher fat accumulation, while Ectomorphs are thin and fragile with less muscle mass. Since the question describes a muscular and athletic body type, Mesomorph is the correct answer. This body type is often associated with confidence, physical activity, and better performance in athletics and fitness-related activities.

Final Answer: Muscular, athletic, and strong bone structure

Answer: (C)

Q9.

Solution

Concept: Carl Jung classified personality into psychological types such as Introvert and Extrovert. Introverts are generally quiet, thoughtful, reserved, and comfortable spending time alone. They prefer calm environments, small social groups, and personal reflection rather than large gatherings and continuous social interaction.

Solution: According to Carl Jung's theory, an Introvert is a person who is shy, socially withdrawn, and enjoys solitude. Introverts focus more on internal thoughts and emotions than external social activities. They usually prefer peaceful environments and meaningful conversations with a few close people. Excessive social interaction may feel mentally exhausting for them. Extroverts are outgoing and energetic, while Ambiverts show qualities of both personality types. Somatotype refers to body classification rather than personality. Since the question describes a shy person who enjoys solitude and avoids social interaction, the correct answer is Introvert. Introversion is often associated with concentration, creativity, and reflective thinking.

Final Answer: Introvert

Answer: (C)

Q10.

Solution

Concept: Aggression in sports refers to behavior intended to harm or dominate an opponent. Sports psychology mainly identifies hostile aggression and instrumental aggression. Hostile aggression occurs when the primary aim is to cause injury or pain due to anger, frustration, or emotional reactions during competition.

Solution: Hostile aggression is defined as aggressive behavior where the main intention is to cause injury or pain to an opponent. The athlete acts out of anger or frustration rather than focusing on game performance. Examples include intentionally punching, kicking, or harming another player. Instrumental aggression differs because aggressive actions are mainly used to gain competitive advantage rather than to injure someone. Accidental contact during fast gameplay is not aggression because harmful intent is absent. Loud cheering from teammates is motivation, not aggression. Therefore, the correct definition of hostile aggression is the intention to cause injury or pain as the primary goal. Such behavior violates sportsmanship and player safety principles.

Final Answer: The intent to cause injury or pain as the primary goal

Answer: (B)

Q11.

Solution

Concept: Motivation is the force that encourages individuals to achieve goals and perform activities. It is mainly divided into intrinsic and extrinsic motivation. Extrinsic motivation depends on external rewards such as trophies, medals, money, praise, certificates, or scholarships to encourage better performance and participation.

Solution: Extrinsic Motivation refers to motivation produced through external rewards such as trophies, scholarships, medals, certificates, or public recognition. In sports and education, coaches and teachers often use rewards to encourage discipline, participation, and improved performance among students and athletes. Intrinsic motivation differs because individuals perform activities for personal satisfaction or enjoyment rather than rewards. Self-actualization refers to achieving one's highest potential, while cognitive dissonance describes mental discomfort caused by conflicting beliefs. Since the question specifically mentions external rewards like trophies and scholarships, the correct answer is Extrinsic Motivation. This method is widely used to increase confidence, competition, and achievement in academic and sports environments.

Final Answer: Extrinsic Motivation

Answer: (C)

Q12.

Solution

Concept: Openness is one of the five major traits in the Big Five Personality Theory. It represents curiosity, imagination, creativity, and willingness to explore new experiences and ideas. People high in openness are usually adaptable, innovative, intellectually curious, and interested in learning and experimentation.

Solution: In the Big Five Personality Theory, Openness refers to a person's willingness to try new experiences, ideas, and perspectives. Individuals with high openness are imaginative, curious, creative, and eager to explore unfamiliar situations. They enjoy learning, experimenting, and accepting different viewpoints. Emotional stability relates more closely to low neuroticism, while compassion and cooperation are associated with Agreeableness. Physical flexibility is a physical ability rather than a personality trait. Since the question focuses on curiosity and acceptance of new experiences, openness is the correct answer. This trait is valuable in academics, leadership, innovation, creativity, and adapting successfully to changing environments.

Final Answer: Willingness to try new experiences and ideas

Answer: (A)

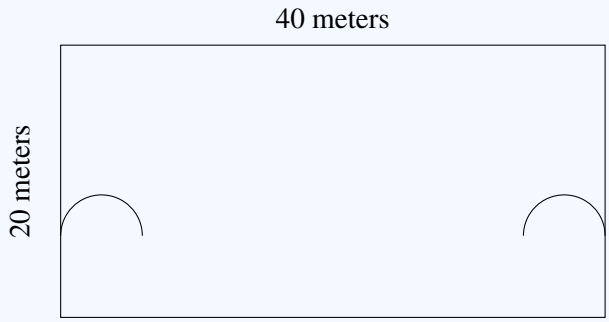
Q13.

Solution

Concept: A standard professional Handball court follows international dimensions specified by the International Handball Federation (IHF).

- Length = **40 meters**
- Width = **20 meters**

Visual Representation:



Standard Handball Court

Explanation:

- 40×20 **meters** is the official international size.
- 28×15 meters is smaller than regulation size.
- 18×9 meters is the standard Volleyball court size.
- 100×50 meters is closer to a football field dimension.

Final Answer: 40×20 meters

Answer: (B)

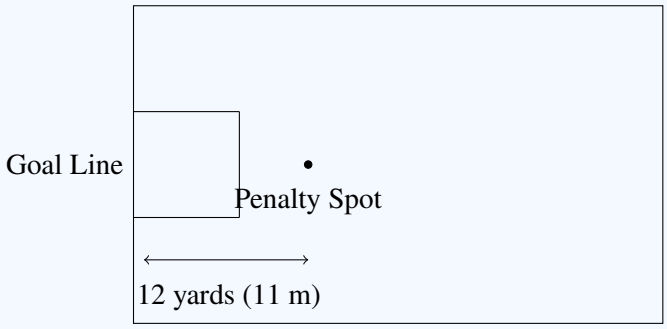
Q14.

Solution

Concept: In Football (Soccer), the penalty spot is marked at a fixed distance from the goal line according to FIFA Laws of the Game.

- The penalty spot is located **12 yards** from the goal line.
- This distance is approximately **11 meters**.

Visual Representation:



Explanation:

- FIFA regulations specify the penalty mark at 12 yards from the goal line.
- This standard is used in all professional football matches.

Final Answer: 12 yards (11 meters)

Answer: (C)

Q15.

Solution

Concept: Kabaddi is a traditional Indian contact sport that combines strength, agility, speed, and defensive skills. The game involves raiders attempting to score points by touching opponents while defenders try to stop them using various tackling techniques. Defensive skills are extremely important in Kabaddi because successful tackles prevent the raider from returning safely to their court. Common defensive techniques include ankle hold, thigh hold, waist hold, block, and chain tackle. These techniques require coordination, timing, physical strength, and teamwork to control the movement of the raider effectively during the match.

Solution: The skills "Ankle Hold" and "Thigh Hold" are fundamental defensive techniques used in the game of Kabaddi. In Kabaddi, defenders aim to stop the raider from crossing back into their half after scoring touches. The ankle hold technique involves grabbing the raider's ankle firmly to restrict movement and bring the player down safely. This technique is especially effective against fast-moving raiders because it reduces balance and speed immediately. Similarly, the thigh hold involves gripping the raider's thigh tightly to stop forward movement and assist other defenders in completing the tackle. These defensive methods require excellent coordination, strength, quick reflexes, and teamwork among players. Kho-Kho mainly focuses on chasing and dodging rather than tackling techniques. Hockey and Handball are stick and ball games where such body-hold defensive skills are not used. Therefore, the techniques of ankle hold and thigh hold are specifically associated with Kabaddi and form an essential part of defensive gameplay in the sport.

Final Answer: Kabaddi

Answer: (C)

Q16.

Solution

Concept: Hockey is a fast-paced team sport played with sticks and a ball where players aim to score goals by hitting the ball into the opponent's net. The game follows specific rules regarding fouls, penalties, and restarts to ensure fairness and smooth gameplay. One such restart is the "Long Corner," which is awarded under certain conditions when the ball crosses the backline. Understanding these rules is important for players, referees, and coaches because they directly affect match strategy, defensive organization, and attacking opportunities during competitive hockey matches.

Solution: In Hockey, a "Long Corner" is awarded when the ball crosses the backline after being unintentionally touched by a defender. This rule is designed to restart the game fairly when the defending team accidentally sends the ball beyond their own backline without committing a deliberate foul. During a long corner, the attacking team takes a free hit from a designated point near the corner area outside the shooting circle. If an attacker intentionally or unintentionally hits the ball over the backline, the defending team is awarded a free hit or goal clearance instead. When the goalkeeper makes a save and the ball goes over the backline, the decision depends on the situation and may result in different restarts such as a penalty corner or long corner if no intentional action is involved. Since the rule specifically applies when a defender unintentionally causes the ball to cross the backline, the correct answer is a defender unintentionally touching the ball before it crosses the line.

Final Answer: A defender unintentionally

Answer: (B)

Q17.

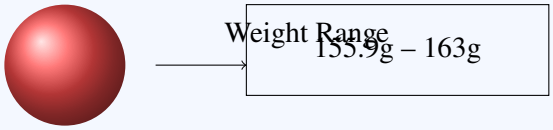
Solution

Concept: According to the Laws of Cricket, the standard weight of a professional men's cricket ball is fixed within a specific range.

- The official weight range is:

$$155.9\,g \text{ to } 163\,g$$

Visual Representation:



Explanation:

- This standard applies to men's international cricket matches.
- A cricket ball outside this range is not considered regulation standard.
- Other options are either too light or too heavy.

Final Answer: 155.9g to 163g

Answer: (B)

Q18.

Solution

Concept: Kabaddi is a traditional Indian sport where raiders must hold their breath and continuously chant "Kabaddi" during a raid. This chant is called the "Cant." It reflects breath control, stamina, concentration, and discipline. The cant is a unique technical rule that distinguishes Kabaddi from most other team sports.

Solution: The "Cant" is a unique technical requirement associated with the game of Kabaddi. During a raid, the raider must continuously chant the word "Kabaddi" in a single breath while entering the opponent's court and attempting to score points. This chant proves that the raider has not inhaled during the raid. If the raider stops chanting or takes another breath before returning safely, the raid becomes invalid according to official rules. The cant requires excellent lung capacity, stamina, concentration, and rhythm. No such breathing-based rule exists in sports like Hockey, Football, or Handball. These games mainly focus on passing, shooting, and teamwork. Therefore, the cant is considered a special identifying feature of Kabaddi and plays an important role in maintaining fairness, discipline, and technical accuracy during gameplay.

Final Answer: Kabaddi

Answer: (C)

Q19.

Solution

Concept: In limited-overs cricket, Powerplay overs are special phases with fielding restrictions. Only a limited number of fielders are allowed outside the 30-yard circle. These rules encourage attacking batting and increase scoring opportunities, making Powerplay an important strategic phase in modern T20 cricket matches.

Solution: In T20 International cricket, the first 6 overs of an innings are known as the Powerplay overs. During this period, only two fielders are allowed outside the 30-yard circle, creating more scoring opportunities for the batting side. Batters usually play aggressively during these overs to maximize runs, while bowlers try to take early wickets and control momentum. The Powerplay is one of the most important phases of a T20 match because a strong start can significantly influence the final result. Teams often plan their batting order and bowling strategy specifically for this period. The options mentioning 4, 10, or 15 overs are incorrect because official T20 rules clearly define the mandatory Powerplay as the first 6 overs only. Therefore, 6 overs is the correct answer for the Powerplay duration in T20 International cricket.

Final Answer: 6 overs

Answer: (B)

Q20.

Solution

Concept: Suryanamaskar is a sequence of twelve yoga postures performed with synchronized breathing. Each stage has specific physical and mental benefits. The sequence improves flexibility, posture, circulation, balance, and concentration. Knowing the correct order of postures is essential for proper and safe yoga practice.

Solution: In the 12-stage sequence of Suryanamaskar, Stage 4 is called Ashwa Sanchalanasana or the Equestrian Pose. In this posture, one leg is stretched backward while the opposite knee remains bent forward between the hands, and the chest is lifted upward. This pose improves flexibility of the hips, legs, and spine while also enhancing balance and coordination. It helps expand the chest and improves breathing efficiency. The posture appears again later in the sequence at Stage 9. Padahastasana is a standing forward bend performed earlier, Bhujangasana is the Cobra Pose performed later during the floor sequence, and Parvatasana involves an inverted V-shaped body position. Since the fourth stage specifically corresponds to Ashwa Sanchalanasana, it is the correct answer according to the standard sequence of Suryanamaskar practiced in yoga.

Final Answer: Ashwa Sanchalanasana

Answer: (B)

Q21.

Solution

Concept: Kriyas are yogic cleansing techniques used to purify different body systems. Neti is a kriya related to nasal cleansing and respiratory health. These practices improve hygiene, breathing efficiency, concentration, and overall wellness. Kriyas are important components of Hatha Yoga and are practiced under proper guidance.

Solution: Jala Neti is the yogic kriya that uses saline water to cleanse the nasal passages. In this practice, lukewarm salt water is poured through one nostril with the help of a Neti pot, allowing it to flow out from the other nostril. This process removes dust, mucus, and allergens from the nasal cavity, improving breathing and respiratory health. Jala Neti is especially helpful for people suffering from sinus congestion, allergies, colds, and breathing difficulties. Dhauti is mainly related to cleansing the digestive tract, while Nauli focuses on abdominal muscle movement for digestive benefits. Kapalbhati is a breathing exercise involving forceful exhalation and is not specifically used for nasal cleansing. Since Jala Neti directly involves cleaning the nasal passage with saline water, it is the correct answer. This kriya improves nasal hygiene, concentration, and breathing efficiency during yoga and meditation practices.

Final Answer: Jala Neti

Answer: (C)

Q22.

Solution

Concept: Vrikshasana, or Tree Pose, is a balancing yoga posture that develops stability, coordination, and concentration. The pose strengthens the legs and improves posture. Since balancing on one leg requires focus and body awareness, this asana is highly beneficial for mental calmness and neuromuscular coordination.

Solution: Vrikshasana is primarily known for improving balance and concentration. In this posture, the practitioner stands on one leg while placing the other foot against the inner thigh and joining the hands above the head. Maintaining this position requires stability, coordination, and mental focus. The pose strengthens the leg muscles, ankles, and core while improving posture and body alignment. Since the body must remain steady without losing balance, the asana greatly enhances concentration and mindfulness. It is not mainly intended for cardiovascular endurance or digestive improvement, although some secondary benefits may occur. Regular practice of Vrikshasana also helps develop confidence, patience, and body control. Therefore, among the given options, balance and concentration are the most important benefits associated with Tree Pose. This asana is widely practiced in yoga for improving both physical stability and mental focus.

Final Answer: Balance and concentration

Answer: (C)

Q23.

Solution

Concept: Pranayama includes yogic breathing techniques that regulate breathing and improve physical and mental health. Some pranayamas produce heating effects, while others create cooling sensations. Cooling pranayamas help reduce body temperature, relieve stress, and calm the nervous system, making them useful during hot weather or fatigue.

Solution: Sitali Pranayama is the breathing technique known for producing a cooling effect along with a soft hissing sound during inhalation. In this practice, the tongue is rolled into a tube shape and air is inhaled slowly through the mouth. As the air passes over the moist tongue, it creates a cooling sensation throughout the body. Sitali helps reduce body heat, calm the mind, and relieve stress and fatigue. It is especially beneficial during hot weather and after physical exertion. Bhastrika is a forceful breathing technique that generates heat and energy, while Bhramari produces a humming sound like a bee during exhalation. Ujjayi creates an ocean-like sound due to throat contraction but does not mainly provide cooling effects. Therefore, Sitali is the correct answer because it combines a hissing inhalation sound with cooling physiological benefits in yoga practice.

Final Answer: Sitali

Answer: (B)

Q24.

Solution

Concept: *Ashtanga Namaskara* is the 6th stage of Suryanamaskar. The word:

- **Ashta** = Eight
- **Anga** = Body parts
- **Namaskara** = Salutation

In this posture, eight body parts touch the ground:

- Two feet
- Two knees
- Two hands
- Chest
- Chin

Total:

$$2 + 2 + 2 + 1 + 1 = 8$$

Visual Representation:

Total = 8 Body Parts

Final Answer: 8

Answer: (C)

Q25.

Solution

Concept: Shatkarmas are six yogic cleansing techniques used in Hatha Yoga for internal purification. They help improve concentration, respiratory health, digestion, and mental clarity. Unlike asanas, shatkarmas mainly focus on cleansing body systems and sensory organs for better physical and mental balance.

Solution: Trataka is the yogic practice classified as a shatkarma rather than an asana. In this technique, a person continuously gazes at a fixed object, usually a candle flame, without blinking for as long as possible. This practice improves concentration, eye strength, memory, and meditation ability. Trataka is considered a cleansing technique because it purifies the eyes and mind while enhancing focus and mental stability. Tadasana, Shavasana, and Gomukhasana are yoga postures mainly practiced for flexibility, relaxation, and physical conditioning. They are categorized as asanas, not cleansing kriyas. Trataka differs because its primary aim is sensory purification and mental concentration rather than body posture. It is widely practiced in Hatha Yoga to develop inner awareness and emotional calmness. Therefore, Trataka is correctly identified as a shatkarma cleansing technique.

Final Answer: Trataka

Answer: (B)

Q26.

Solution

Concept: Macronutrients are nutrients required in large amounts for energy and body maintenance. Carbohydrates are the body's quickest energy source because they rapidly convert into glucose. Athletes often consume simple carbohydrates during endurance activities to maintain blood sugar levels and delay fatigue during performance.

Solution: A marathon runner needing quick energy during a race should consume Simple Carbohydrates. These carbohydrates digest rapidly and quickly release glucose into the bloodstream, providing immediate energy for working muscles. Foods such as glucose drinks, bananas, sports gels, and energy bars are rich in simple carbohydrates and are commonly used by endurance athletes. They help maintain stamina, delay fatigue, and support continuous performance during long-duration events. Complex carbohydrates release energy slowly and are generally consumed before competition for sustained energy. Saturated fats digest slowly and are unsuitable for instant energy needs during races. Fat-soluble vitamins support body functions but do not provide direct energy. Since the question asks for a rapid source of energy during a marathon, simple carbohydrates are the most appropriate choice because they efficiently restore glucose levels and improve endurance performance during prolonged physical activity.

Final Answer: Simple Carbohydrates

Answer: (B)

Q27.

Solution

Concept: Postural deformities are abnormal body alignments caused by nutritional deficiency, poor habits, or weak muscles. Bow Legs or Genu Varum occur when the ankles touch but the knees remain apart. Vitamin D deficiency during childhood is a major cause because it weakens bones and affects skeletal growth.

Solution: The postural deformity where the ankles touch while a noticeable gap remains between the knees is called Bow Legs or Genu Varum. In this condition, the legs curve outward, creating a bow-like appearance. It commonly develops during childhood because of Vitamin D deficiency, which weakens bones and interferes with proper skeletal growth. Rickets is one of the most common disorders associated with Bow Legs. This condition differs from Knock Knees, where the knees touch but the ankles remain apart. Flat Foot involves loss of the foot arch, while Kyphosis refers to excessive outward curvature of the spine. Since the question specifically describes outward leg curvature with separated knees, the correct answer is Bow Legs. Proper nutrition, sunlight exposure, physiotherapy, and corrective exercises are important for prevention and treatment during childhood development and growth.

Final Answer: Bow Legs (Genu Varum)

Answer: (B)

Q28.

Solution

Concept: Fractures are classified based on the pattern and severity of the break in the bone. In high-impact trauma, bones may shatter into multiple pieces due to extreme force. Such injuries are more complex and usually require advanced medical intervention for proper healing and alignment.

Solution: A Comminuted Fracture is a type of bone fracture in which the bone is broken into several fragments or pieces. It typically occurs due to high-impact trauma such as road accidents or severe sports injuries. This type of fracture is more serious compared to simple fractures because the bone structure is shattered, making recovery more complicated. A Transverse fracture involves a straight break across the bone, while a Greenstick fracture is an incomplete break seen mainly in children where the bone bends and cracks on one side. A Stress fracture is a small crack caused by repetitive overuse rather than sudden impact. Since the question specifies multiple fragments, the correct answer is Comminuted Fracture.

Final Answer: Comminuted Fracture

Answer: (C)

Q29.

Solution

Concept: Micronutrients include vitamins and minerals required in small amounts for proper body functioning. Vitamin K is an essential fat-soluble vitamin that supports blood clotting and bone metabolism. Deficiency of Vitamin K may cause excessive bleeding and weakened bone health in the body.

Solution: Vitamin K is the micronutrient mainly responsible for blood clotting and healthy bone metabolism. It helps the body produce clotting factors necessary to stop bleeding after injuries. Without adequate Vitamin K, blood clotting becomes inefficient, increasing the risk of excessive bleeding and slow wound healing. Vitamin K also supports bone health by regulating calcium deposition in bones and improving bone strength. Magnesium and phosphorus are important minerals for body function, but they are not primarily responsible for blood coagulation. Carbohydrates are macronutrients that provide energy rather than functioning as micronutrients. Since the question asks about clotting and bone metabolism, Vitamin K is the correct answer. Green leafy vegetables, spinach, broccoli, and vegetable oils are rich dietary sources of Vitamin K and are important for maintaining proper body functions and overall health.

Final Answer: Vitamin K

Answer: (A)

Q30.

Solution

Concept: Flat Foot or Pes Planus is a deformity where the arch of the foot collapses, causing the sole to touch the ground completely. Corrective exercises strengthen foot muscles and help restore the natural arch, improving posture, balance, walking efficiency, and foot stability over time.

Solution: A person suffering from Flat Foot should perform corrective exercises such as walking on the outer edges of the feet and picking up marbles with the toes. These exercises strengthen the small muscles and ligaments responsible for maintaining the natural foot arch. Outer-edge walking reduces excessive inward pressure on the collapsed arch, while marble-picking improves toe grip and foot muscle coordination. Regular practice helps improve balance, posture, and walking efficiency. Walking on the inner edges of the feet may worsen the condition because it increases pressure on the weak arch. Jumping from heights can place additional stress on the feet and increase injury risk. Heel walking mainly strengthens lower leg muscles but does not effectively correct flat foot. Therefore, outer-edge walking combined with toe-strengthening exercises is considered the most suitable corrective method for managing Flat Foot deformity.

Final Answer: Walking on the outer edge of the feet and picking up marbles with toes

Answer: (C)

Q31.

Solution

Concept: Fractures are classified according to the pattern and direction of bone breaks. A transverse fracture occurs straight across the bone, whereas an oblique fracture occurs diagonally. Understanding fracture patterns is important in sports medicine because treatment and healing depend on the direction and severity of the break.

Solution: An Oblique Fracture is identified by a diagonal or sloping break across the bone. Unlike a transverse fracture, which occurs straight across at a right angle, an oblique fracture forms at an angle because of twisting or indirect force applied to the bone. These fractures may sometimes become unstable due to the slanting fracture line and therefore require careful alignment during treatment. A fracture where the bone pierces the skin is called an open or compound fracture, while a ligament pulling away a piece of bone is known as an avulsion fracture. Since the question specifically asks about the defining feature of an oblique fracture, the correct answer is the angled or sloped fracture pattern. Proper diagnosis through X-rays and timely treatment are essential for correct healing, restoring bone alignment, and preventing long-term complications after injury.

Final Answer: It occurs at an angle or curved/sloped direction

Answer: (B)

Q32.

Solution

Concept: The **Major Dhyan Chand Khel Ratna Award** is India's highest sporting honor, presented annually by the Ministry of Youth Affairs and Sports for outstanding performance in sports at the international level.

- The award currently carries a cash prize of:

25 Lakh

Visual Representation:

Explanation:

- The award includes a medallion, certificate, and cash prize.
- The prize amount was revised to 25 lakh in recent years. :contentReference[oaicite:0]index=0

Final Answer: 25 Lakh

Answer: (C)

Q33.

Solution

Concept: The Dronacharya Award honors coaches who make major contributions to Indian sports through athlete training and performance development. The Lifetime Category recognizes experienced coaches with long-term dedication and consistent success in producing medal-winning athletes at national and international levels. This award highlights the importance of coaching, mentorship, discipline, and sustained contribution to sports excellence.

Solution: The Dronacharya Award (Lifetime Category) is presented to coaches who have produced medal-winning athletes over a long period of at least 20 years. This category honors experienced coaches for their continuous dedication, technical knowledge, and contribution to sports development in India. Coaches receiving this award are recognized for training athletes who achieve success in major competitions such as the Olympics, Asian Games, Commonwealth Games, and World Championships. The award is specifically meant for coaches and not for active athletes, school teachers, or sports administrators. It emphasizes long-term service, consistent achievement, and the ability to guide athletes toward excellence. Therefore, the correct answer is coaches who have produced medalists over a period of 20 years or more through dedicated coaching and athlete development.

Final Answer: Coaches who have produced medalists over a period of 20 years or more

Answer: (B)

Q34.

Solution

Concept: Physical Education teachers require professional qualifications to teach sports, fitness, and health education effectively. The Bachelor of Physical Education (B.P.Ed) is a specialized professional course that trains individuals in sports sciences, teaching methods, fitness training, and physical development. It is considered the standard qualification for secondary-level Physical Education teaching in India.

Solution: To become a specialized Physical Education teacher at the secondary school level in India, the minimum professional qualification after graduation is the Bachelor of Physical Education (B.P.Ed) degree. This course provides both theoretical and practical knowledge related to sports training, anatomy, physiology, teaching methodology, and health education. B.P.Ed prepares candidates to conduct sports activities, fitness programs, and Physical Education classes effectively in schools. A D.P.Ed qualification is generally meant for lower-level teaching roles, while M.P.Ed is an advanced postgraduate qualification pursued after B.P.Ed. A PhD in Sports Science is mainly intended for research and university-level academics. Therefore, B.P.Ed is considered the essential professional qualification for becoming a Physical Education teacher in secondary schools according to Indian educational standards.

Final Answer: B.P.Ed (Bachelor of Physical Education)

Answer: (B)

Q35.

Solution

Concept: The Arjuna Award is a prestigious sports honor given by the Government of India to athletes for consistent excellence in sports performance. The award recognizes discipline, leadership, sportsmanship, and achievements in national and international competitions. Evaluation is based on recent sustained performance rather than lifetime contribution or a single tournament achievement.

Solution: The Arjuna Award is awarded on the basis of an athlete's performance during the last four years. This evaluation period ensures that athletes showing consistent excellence and discipline in recent competitions are properly recognized. The performances considered include achievements in events such as the Olympics, Asian Games, Commonwealth Games, World Championships, and national competitions. The four-year assessment system helps identify athletes who maintain high standards over time rather than rewarding only one successful event. Lifetime contribution is generally recognized through separate honors like the Major Dhyan Chand Lifetime Achievement Award. The Arjuna Award focuses on recent and sustained achievement combined with sportsmanship and leadership qualities. Therefore, the correct answer is performance over the last four years in competitive sports activities.

Final Answer: Performance over the last 4 years

Answer: (B)

Q36.

Solution

Concept: Muscle contractions occur when muscles produce tension to create or resist movement. Isometric contractions involve muscle tension without any visible movement or change in muscle length. These contractions are commonly used in rehabilitation, posture training, muscular endurance exercises, and strength-conditioning programs because they strengthen muscles while minimizing joint movement.

Solution: The type of muscle contraction in which the muscle develops tension without changing its length is called an Isometric contraction. During this contraction, the muscle remains static while force is generated against resistance. Examples include pushing against a wall, holding a plank position, or carrying an object without movement. Isometric exercises help improve muscular endurance, stability, posture, and rehabilitation because the joints remain fixed during the activity. In contrast, isotonic contractions involve visible movement and muscle shortening or lengthening, while isokinetic contractions require specialized equipment that maintains constant movement speed. Eccentric contractions occur when the muscle lengthens while resisting force. Since the question specifically describes tension without movement or length change, the correct answer is Isometric contraction.

Final Answer: Isometric

Answer: (C)

Q37.

Solution

Concept: Fartlek Training is a Swedish endurance training method that combines continuous running with changes in speed and intensity. Athletes alternate between fast and slow running according to terrain or choice. It improves aerobic endurance, speed, stamina, and recovery ability. The flexible nature of this training makes it enjoyable and highly effective for endurance sports.

Solution: The term "Fartlek" literally means "Speed Play" in Swedish. This training method was developed by Gosta Holmer to improve endurance and speed together. In Fartlek training, athletes continuously run while changing pace between jogging, sprinting, and moderate running according to terrain or planned patterns. Unlike interval training, there are no fixed repetitions or strict rest intervals, making the method flexible and enjoyable. The playful variation in speed helps improve cardiovascular endurance, stamina, and recovery ability simultaneously. It is widely used in sports like football, hockey, and long-distance running because it develops both aerobic and anaerobic fitness. Since the method mainly focuses on varying running speeds in a playful style, the literal meaning "Speed Play" correctly describes Fartlek training and its overall purpose in sports conditioning.

Final Answer: Speed play

Answer: (B)

Q38.

Solution

Concept: Proprioceptive Neuromuscular Facilitation (PNF) is an advanced stretching technique used to improve flexibility and joint range of motion. It combines muscle stretching with controlled contraction phases. PNF is widely used in physiotherapy, rehabilitation, and sports training because it increases muscle elasticity and improves movement efficiency more effectively than ordinary static stretching exercises.

Solution: Proprioceptive Neuromuscular Facilitation (PNF) is mainly used for developing flexibility. In this method, a muscle is first stretched, then contracted against resistance, and finally stretched again to increase range of motion. The contraction phase activates neuromuscular responses that help the muscles relax and lengthen more effectively. PNF stretching is commonly used by athletes, physiotherapists, and trainers to improve mobility, muscle elasticity, and sports performance. Compared to ordinary static stretching, PNF generally produces faster improvements in flexibility because it combines stretching with controlled muscular contraction. Although flexibility training may indirectly support balance and movement efficiency, the primary objective of PNF is flexibility development rather than speed, explosive strength, or endurance. Proper supervision is recommended because the technique involves resistance and deep stretching movements that require careful execution for safety and effectiveness.

Final Answer: Flexibility

Answer: (C)

Q39.

Solution

Concept: Isokinetic exercises are strength-training exercises performed at a constant movement speed using specialized machines. These machines automatically adjust resistance according to the force applied by the athlete. Isokinetic training is widely used in rehabilitation, physiotherapy, and sports science because it improves muscular strength safely throughout the complete range of joint movement.

Solution: Isokinetic exercises were introduced by J.J. Perrine. He developed the concept of maintaining constant movement speed during muscular contractions through specially designed exercise equipment. In isokinetic machines, resistance automatically changes according to the athlete's effort so that movement speed remains constant throughout the exercise. This allows muscles to produce maximum force safely at every stage of movement. Isokinetic training is widely used in rehabilitation centers, physiotherapy programs, and sports performance laboratories because it improves muscular strength, endurance, and recovery while reducing injury risk. Gosta Holmer is associated with Fartlek training, while Morgan and Adamson contributed to circuit training methods. Hans Kraus is known for fitness testing rather than isokinetic exercise development. Therefore, J.J. Perrine is correctly recognized as the person who introduced isokinetic exercise systems in modern sports training and rehabilitation science.

Final Answer: J.J. Perrine

Answer: (A)

Q40.

Solution

Concept: Muscle contractions are classified according to movement and force production. In isotonic contractions, muscles change length while producing tension. Concentric contractions shorten the muscle during movement, while eccentric contractions lengthen it under tension. Isometric contractions involve no movement. Understanding these contractions is important for strength training, rehabilitation, and sports performance improvement programs.

Solution: During the upward phase of a bicep curl, the bicep muscle shortens while lifting the dumbbell against gravity. This action is known as a concentric isotonic contraction. In concentric contraction, muscle fibers shorten as tension increases, resulting in movement at the joint. When the elbow bends and the dumbbell moves upward, the biceps muscle contracts concentrically to overcome resistance. In contrast, during the lowering phase, the muscle lengthens while controlling the weight, which is called eccentric contraction. Isometric contractions involve tension without visible movement, such as holding a weight still. Isokinetic contractions occur at constant speed using specialized machines. Since the question describes the upward lifting phase where the muscle shortens under tension, the correct answer is concentric isotonic contraction, which is commonly used in resistance and strength-training exercises.

Final Answer: Concentric (Isotonic) contraction

Answer: (B)

Q41.

Solution

Concept: The Chair Stand Test measures lower body strength and mobility in older adults. Strong leg muscles help maintain balance, walking ability, stair climbing, and independence during routine daily activities in old age.

Solution: The Chair Stand Test is mainly used to assess lower body strength and functional mobility in elderly individuals. During the test, participants repeatedly stand up and sit down on a chair within a fixed time, usually 30 seconds. The activity measures the strength and endurance of the leg muscles, especially the quadriceps and hip muscles. Strong lower body muscles are important for walking, climbing stairs, standing from a chair, and maintaining balance during daily activities. Weak muscles may increase the risk of falls and mobility problems among older adults. The test does not mainly evaluate aerobic endurance or spinal deformities. Therefore, the Chair Stand Test is specifically designed to measure lower body strength and independence in senior citizens.

Final Answer: To assess lower body strength and functional mobility

Answer: (B)

Q42.

Solution

Concept: The Flamingo Balance Test measures static balance ability. Participants balance on one leg while falls are counted. Standard rules ensure reliability, fairness, and accurate assessment of balance performance during fitness testing procedures.

Solution: In the Flamingo Balance Test, if a participant falls or loses balance 15 times within the first 30 seconds, the test is terminated and the score is recorded as zero. This rule exists because repeated falls indicate extremely poor balance, making further testing unreliable. The test is designed to measure static balance under controlled conditions, and excessive imbalance prevents accurate evaluation of performance. Continuing after many falls would reduce the validity and reliability of the assessment. The procedure does not involve counting only the final falls or disqualifying the athlete from all other tests. Therefore, according to standard guidelines, the correct procedure is to stop the test immediately and award a score of zero.

Final Answer: The test is terminated and the score is recorded as zero

Answer: (B)

Q43.

Solution

Concept: The 4×10m Shuttle Run Test measures agility, speed, and directional change. Surface conditions strongly affect traction, balance, stopping ability, and movement control during agility-based physical fitness assessments and testing activities.

Solution: The factor most affecting the validity of the 4×10m Shuttle Run Test is the surface friction of the floor. Since the test requires rapid acceleration, stopping, and quick directional changes, proper traction is essential for accurate performance. A slippery floor may cause participants to lose balance, hesitate, or slow down while turning, directly affecting the recorded time and reducing reliability. In contrast, a grippy surface allows safer and smoother movement. The color of the wooden blocks does not influence agility performance. Although time of day and participant height may create minor differences, they are less important than surface conditions. Therefore, maintaining proper and consistent floor friction is essential for obtaining accurate, reliable, and fair shuttle run test results.

Final Answer: The surface friction of the floor (slippery vs. grippy)

Answer: (B)

Q44.

Solution

Concept: The Back Scratch Test measures upper body flexibility in older adults. Shoulder flexibility is necessary for daily activities such as dressing, reaching overhead, lifting objects, and maintaining comfortable body movement and posture.

Solution: The Back Scratch Test is specifically used to assess upper body flexibility in older adults. In this test, one hand reaches over the shoulder while the other reaches behind the back to attempt finger contact. The distance between the fingertips is measured to evaluate shoulder flexibility and range of motion. Good upper body flexibility helps elderly individuals perform activities such as combing hair, dressing, and reaching overhead comfortably. The Eight Foot Up-and-Go Test mainly measures agility and balance, while the Six-Minute Walk Test evaluates aerobic endurance. The Arm Curl Test assesses upper body muscular strength rather than flexibility. Therefore, the Back Scratch Test correctly measures shoulder and upper body flexibility and helps identify mobility limitations in elderly individuals.

Final Answer: Back Scratch Test

Answer: (C)

Q45.

Solution

Concept: Measurement collects numerical information through testing, while evaluation interprets results using standards or norms. Both are essential in physical education, sports performance assessment, and determining fitness or achievement levels accurately.

Solution: Comparing a student's 45-second Flamingo Balance Test score with national norms and grading it as "Excellent" is an example of evaluation. Evaluation means interpreting measured results to judge performance quality. Simply recording the balance time is measurement because it only provides numerical data without interpretation. Using a stopwatch is part of the testing process, while checking sports shoes relates to preparation and safety. In physical education, evaluation helps teachers and coaches determine whether performance is excellent, average, or poor by comparing results with standard norms. This process provides meaningful conclusions about fitness and achievement levels. Therefore, interpreting the measured balance score and assigning a grade based on accepted standards correctly represents evaluation.

Final Answer: Comparing the 45-second score against national norms to grade it as "Excellent"

Answer: (B)

Q46.

Solution

Concept: Newton's Third Law states that every action has an equal and opposite reaction. This principle explains sports movements where athletes apply force against surfaces to create motion, balance, jumping, or propulsion.

Solution: The upward push experienced by a high jumper is explained by Newton's Third Law of Motion, also called the Law of Action and Reaction. When the athlete pushes downward against the ground through the legs, the ground exerts an equal and opposite force upward on the athlete's body. This reaction force helps propel the athlete upward during the jump. A stronger downward push produces a stronger upward reaction force, improving jumping performance. Newton's First Law deals with inertia, while the Second Law explains force, mass, and acceleration relationships. The Law of Gravitation explains attraction between masses but not the reaction force during jumping. Therefore, the correct explanation for the upward push acting on the athlete is Newton's Third Law of Action and Reaction.

Final Answer: Law of Action and Reaction (3rd Law)

Answer: (C)

Q47.

Solution

Concept: A second class lever is a system where the load lies between the fulcrum and effort. This arrangement provides mechanical advantage and helps produce strong and efficient body movements during activities.

Solution: In a Second Class Lever, the load or resistance is positioned between the fulcrum and the effort. This arrangement allows a smaller effort force to move a larger load efficiently, giving the lever mechanical advantage. A common example is standing on tiptoes during a calf raise. In this movement, the toes act as the fulcrum, body weight acts as the load, and the calf muscles provide effort through the Achilles tendon. Since the load lies between the fulcrum and effort, it is classified as a second class lever. In first class levers, the fulcrum lies between effort and load, while in third class levers, the effort lies between fulcrum and load. Therefore, the defining feature is the placement of the load in the middle.

Final Answer: The Load (Resistance)

Answer: (B)

Q48.

Solution

Concept: Long-term aerobic training improves cardiovascular efficiency by increasing stroke volume. Stroke volume is the amount of blood pumped in one heartbeat, improving endurance, oxygen delivery, and reducing heart workload during exercise.

Solution: During long-term aerobic training, increased stroke volume allows the heart to pump more blood with each beat, reducing overall cardiac workload. Stroke volume refers to the amount of blood ejected by the left ventricle during one contraction. As endurance training strengthens the heart muscle, especially the left ventricle, the heart becomes more efficient in supplying oxygen-rich blood to working muscles. Since more blood is pumped per beat, resting heart rate usually decreases because fewer beats are needed to circulate blood throughout the body. This adaptation improves endurance capacity, oxygen transport, and cardiovascular efficiency. Aerobic training does not reduce oxygen supply or significantly increase resting blood pressure. Therefore, increased stroke volume mainly improves blood circulation while reducing the workload of the heart.

Final Answer: More blood pumped per beat with reduced heart workload

Answer: (A)

Q49.

Solution

Concept: Third class levers are common in the human body. In this arrangement, effort lies between the fulcrum and load, allowing greater speed, flexibility, and wide-ranging movement during sports and daily activities.

Solution: Flexing the elbow with the biceps acting on the forearm is an example of a Third Class Lever system. In this movement, the elbow joint acts as the fulcrum, the biceps muscle applies effort between the elbow and the hand, and the load is the forearm or any object held in the hand. Since the effort lies between the fulcrum and load, the arrangement is classified as a third class lever. This lever system allows fast and wide-ranging movement, which is useful in sports and everyday activities requiring speed and flexibility. Standing on tiptoes represents a second class lever, while nodding the head represents a first class lever. Therefore, elbow flexion involving the biceps correctly represents a third class lever system.

Final Answer: Flexing the elbow (Biceps acting on the forearm)

Answer: (C)

Q50.

Solution

Concept: Anaerobic training involves high-intensity exercise performed for short durations. It improves muscular strength, power, and explosive ability. One important adaptation is muscular hypertrophy, where muscle fibers increase in size through overload.

Solution: The physiological effect most likely after regular anaerobic or strength training is muscular hypertrophy, which means an increase in muscle fiber size. During resistance exercises such as weightlifting, muscles experience repeated overload and microscopic damage. The body repairs these fibers, causing them to become larger and stronger over time. This adaptation improves muscular strength, power, and athletic performance. Anaerobic training mainly develops fast-twitch muscle fibers responsible for explosive movements such as sprinting, jumping, and throwing. Increased mitochondria are more associated with aerobic endurance training. Strength training also does not reduce tendon thickness; tendons usually become stronger to tolerate higher force. Therefore, muscular hypertrophy is the primary physiological adaptation resulting from regular anaerobic strength-training exercises.

Final Answer: Increase in the size of the muscle fibers (Hypertrophy)

Answer: (B)

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	C	4	B	5	B
6	B	7	C	8	C	9	C	11	B
11	C	12	A	13	B	14	C	15	C
16	B	17	B	18	C	19	B	20	B
21	C	22	C	23	B	24	C	25	B
26	B	27	B	28	C	29	A	30	C
31	B	32	C	33	B	34	B	35	B
36	C	37	B	38	C	39	A	40	B
41	B	42	B	43	B	44	C	45	B
46	C	47	B	48	A	49	C	50	B